

CLAIMS:

1. An isolated nucleic acid molecule comprising a sequence of nucleotides encoding or complementary to a sequence encoding a haemopoietin receptor or a derivative thereof wherein said sequence of nucleotides or a complementary form thereof is capable of hybridising under medium stringent conditions to the oligonucleotide:

5'-(A/G)CTCCA(A/G)TC(A/G)CTCCA-3' [SEQ ID NO:1].

2. An isolated nucleic acid molecule according to claim 1 wherein said nucleic acid molecule comprises a nucleotide sequence or a complementary form thereof which hybridises under medium stringent conditions to the oligonucleotides:

5'-ACTAGCAGGGATGTAGCTGAG-3' [SEQ ID NO:4]

5'-CTGCTCCTATGATACCT-3' [SEQ ID NO:6]

5'-CCTCTTCCATCTTATTGCTTGG-3' [SEQ ID NO:7]

5'-ATCGGTCGTGACATACAAGG-3' [SEQ ID NO:8].

3. An isolated nucleic acid molecule according to claim 2 wherein said nucleic acid molecule comprises a nucleotide sequence or a complementary form thereof which hybridises under medium stringent conditions to one or more of the following oligonucleotides:

5'-CTCAGCTACATCCCTGCTAGT-3' [SEQ ID NO:5]

5'-AGCTAAGCTTTCTAGATATCCAATTACTCCTTGGAGA-3' [SEQ ID NO:9]

5'-AGCTTCTAGATCAATCACTCTGGTGTGTTTTCAAT-3' [SEQ ID NO:10]

5'-AGCTTCTAGATCAAACCTTTATATCCATGACAAC-3' [SEQ ID NO:11].

4. An isolated nucleic acid molecule according to claim 3 wherein the haemopoietin receptor is capable of interaction with leptin.

5. An isolated nucleic acid molecule according to claim 4 comprising a nucleotide sequence as set forth in SEQ ID NO:12 or is capable of hybridising to all or part thereof under low stringent conditions.

6. A recombinant haemopoietin receptor or a derivative thereof encoded by a nucleic acid molecule which comprises a nucleotide sequence or a complementary form thereof which is capable of hybridising to SEQ ID NO:1 under medium stringent conditions.
7. A recombinant haemopoietin receptor or its derivative according to claim 6 wherein said haemopoietin receptor is encoded by a nucleic acid molecule which comprises a nucleotide sequence or a complementary form thereof which is capable of hybridising to SEQ ID NO:4, SEQ ID NO:6, SEQ ID NO:7 and SEQ ID NO:8 under medium stringent conditions.
8. A recombinant haemopoietin receptor or its derivative according to claim 7 wherein said haemopoietic receptor is encoded by a nucleic acid molecule which comprises a nucleotide sequence or complementary form thereof which hybridises under medium stringency conditions to one or more of SEQ ID NO:1 and SEQ ID NO:4 to SEQ ID NO:11.
9. A recombinant haemopoietin receptor or its derivative according to claim 8 wherein the haemopoietin receptor is capable of interaction with leptin.
10. A recombinant haemopoietin receptor or its derivative according to claim 9 encoded by a nucleic acid molecule comprising a nucleotide sequence or complementary form thereof substantially as set forth in SEQ ID NO:12 or a sequence capable of hybridising to all or part thereof under medium stringent conditions.
11. A recombinant haemopoietin receptor or its derivative according to claim 10 wherein said haemopoietin receptor has an amino acid sequence substantially as set forth in Figure 2 [SEQ ID NO:13] or having at least about 60% similarity to all or part thereof.
12. A nucleic acid molecule according to claim 1 or claim 6 wherein said haemopoietin receptor is of mammalian origin.
13. A nucleic acid molecule according to claim 12 wherein the haemopoietin receptor is derived from a human, livestock animal, laboratory test animal, companion animal or captive wild animal.

14. A nucleic acid molecule according to claim 13 wherein the haemopoietin receptor is derived from a human or murine species.
15. An antibody to the recombinant haemopoietin receptor according to any one of claims 6 to 11.
16. An antibody according to claim 15 wherein the antibody is a monoclonal antibody.
17. A ligand capable of binding to a haemopoietic receptor according to any one of claims 6 to 11.
18. A ligand according to claim 17 wherein the ligand is leptin.
19. A method of identifying a ligand capable of interacting with a haemopoietic receptor as defined in any one of claims 6 to 11, said method comprising contacting a biological sample containing a putative ligand with said haemopoietic receptor or a ligand binding portion thereof immobilised to a solid support for a time and under conditions sufficient for a complex to form between said receptor and said ligand if said ligand is present in said biological sample, eluting bound ligand and isolating same.
20. A pharmaceutical composition comprising a recombinant haemopoietin receptor according to any one of claims 6 to 11 or a ligand binding portion thereof and one or more pharmaceutically acceptable carriers and/or diluents.
21. A pharmaceutical composition comprising a ligand to the recombinant haemopoietin receptor according to any one of claims 6 to 11 and one or more pharmaceutically acceptable carriers and/or diluents.
22. A method of treatment in a mammal comprising administering to said mammal a treatment effective amount of a recombinant haemopoietin receptor according to any one of claims 6 to 11 or a ligand binding portion thereof or a ligand to said haemopoietic receptor for a time and under conditions sufficient for said treatment to be substantially effected or substantially ameliorated.